



## PATENT ABSTRACTS OF JAPAN

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(54) CRYSTAL ULTRASONIC ASPIRATION  
CIRCUIT WITH SWITCH DRIVE

## (57) Abstract:

**PURPOSE:** To reduce a power consumption of drive circuit by providing a regulator to minimize substantially the power consumption of an amplifier in a probe marking system including an ultrasonic handpiece with 4 farthest end to be put into eyes for emulsifying cataract and the like.

**CONSTITUTION:** This marking system 11 is provided with a drive circuit 15 for supplying a power to either and ultrasonic handpiece or a transformer of a probe 13. Detecting the actually-fed voltage/current by the voltage/current detection circuit 17 inputs the detected signals into a control computer 19. While the system 11 is running, the computer 19 receives the signal F from a treadle 21 to output the amplitude control sig-

nal A into a voltage control oscillator 23 for supplying a desired level approximately into the probe 13. This system 11 also controls an efficiency of the drive circuit 15 to input the control signal V into a switching regulator 27 for minimizing the power consumption and to input a generated constant voltage VADJ into an amplifier, thus, inputting a voltage VB after the amplification into the probe 13.

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